

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2002-NE-09-AD; Amendment 39-13193; AD 2003-12-08]

RIN 2120-AA64

Airworthiness Directives; General Electric Company CF6-80A1/A3 and CF6-80C2A PMC Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), that is applicable to General Electric Company (GE) CF6-80A1/A3 and CF6-80C2A PMC series turbofan engines. This amendment requires performing either a directional pilot valve (DPV) pressure switch moisture purge procedure and an operational check of the fan reverser or replacing the DPV assembly with a serviceable assembly and performing an operational check of the fan reverser. Thereafter, this AD requires one of these actions on a repetitive basis. This amendment is prompted by a review of fan reverser safety analyses resulting from the discovery of an undetectable failure mode of the DPV pressure switch on certain GE CF6-80C2A and CF6-80A1/A3 engine models. The actions specified by this AD are intended to prevent inadvertent fan reverser deployment, which, if it occurred in-flight, could result in loss of control of the airplane.

DATES: Effective July 23, 2003. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of July 23, 2003.

ADDRESSES: The service information referenced in this AD may be obtained from Middle River Aircraft Systems, Mail Point 46, 103 Chesapeake Park Plaza, Baltimore, MD, 21220-4295, telephone: (410) 682-0094; fax: (410) 682-0100. This information may be examined, by appointment, at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Karen Curtis, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7192; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that is applicable to General Electric Company (GE) CF6-80A1/A3 and CF6-80C2A PMC series turbofan engines was published in the Federal Register on June 21, 2002 (67 FR 42202). That action proposed to require performing either a directional pilot valve (DPV) pressure switch moisture purge procedure and an operational check of the fan reverser, or replacing the DPV assembly with a serviceable assembly and performing an operational check of the fan reverser. Thereafter, that action proposed to require one of these actions on a repetitive basis in accordance with Middle River Aircraft Systems Alert Service Bulletins (ASBs) CF6-80A1/A3 SB 78A4030, dated April 4, 2002 or CF6-80C2A PMC SB 78A1118, dated April 4, 2002.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Request to Revise Applicability Statement

One commenter requests that the applicability statement be revised to reference the left-hand fan reverser halves associated with the engines instead of the engine models themselves. The commenter believes that the DPV assembly is not a part of the engine, but is instead a part of the left-hand fan reverser half. The commenter notes the fact that the reverser halves and engines can be removed or installed separately.

The FAA does not agree. The FAA acknowledges that in service the engines and fan reversers can be separated, with the possibility of reversers remaining installed on-wing, while different engines are installed. However, the fan reverser assembly and, therefore, the DPV are part of the engine (14 CFR part 33) type design. The applicability to the engine model is, therefore, appropriate. No changes will be made to the AD as a result of this comment.

Request to Add Isopropyl Alcohol as an Alternate to Acetone

One commenter requests that isopropyl alcohol be allowed as an acceptable alternate to the acetone solvent listed in the consumables of the ASBs as the fluid used for purging moisture from the DPV pressure switch assemblies. The commenter notes that some airports may restrict the use of acetone. The commenter also notes that the DPV assembly manufacturer has agreed that alcohol is an acceptable alternate for acetone for the purposes of accomplishing the moisture purge service bulletins.

The FAA agrees that isopropyl alcohol is an acceptable alternate for acetone for this application. The FAA, GE, and the component manufacturer, previously identified this issue and the ASBs were revised on August 23, 2002, to allow the use of isopropyl alcohol. The compliance section of this final rule AD has been revised to add Revision 1 to each of the ASBs.

Alternative for Replacement of Serviceable DPV

One commenter requests that deactivation of the fan reverser be allowed as an alternative to replacement with a serviceable DPV. The commenter cites a previous AD (99-18-19) that allowed deactivation instead of a DPV leak check inspection.

The FAA agrees and the final rule is revised to allow deactivation. Limitations for operation with one or more reversers deactivated have also been added and are consistent with the previous AD.

Request to Rewrite Description of the Failure Sequence

One commenter requests that the description of the failure sequence in the discussion section of the NPRM preamble be reworded to clarify that an additional failure is required in order for the undetectable DPV pressure switch freezing failure to result in an inadvertent deployment (IAD). The commenter believes that the current statement is misleading. The commenter believes that in addition to the pressurization failure, a directional failure is required before an IAD can occur.

The FAA does not agree. While the FAA agrees that the wording could have been clearer, the requested change does not affect the conclusion that an unsafe condition has been identified. In addition, the Discussion section details are not repeated in the final rule after an NPRM, and therefore, the AD remains unchanged as a result of this comment.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Regulatory Analysis

This final rule does not have federalism implications, as defined in Executive Order 13132, because it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2003-12-08 General Electric Company: Amendment 39-13193. Docket No. 2002-NE-09-AD.

Applicability: This airworthiness directive (AD) is applicable to General Electric Company (GE) CF6-80A1/A3 and CF6-80C2A PMC series turbofan engines. These engines are installed on, but not limited to Airbus Industrie A300-600 and A310 series airplanes.

Note 1: This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (k) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Compliance with this AD is required as indicated, unless already done. To prevent inadvertent fan reverser deployment, which, if it occurred in-flight, could result in loss of control of the airplane, do the following:

GE CF6-80A1/A3 Series Engines

(a) For GE CF6-80A1/A3 series engines, perform one of the following no later than 1,400 flight hours time-since-new (TSN) or 600 flight hours time-in-service (TIS) after the effective date of this AD, whichever occurs later:

(1) Perform the directional pilot valve (DPV) pressure switch moisture purge, in accordance with Paragraph 3.C. of the Accomplishment Instructions of Middle River Aircraft Systems Alert Service Bulletins (ASBs) CF6-80A1/A3 SB 78A4030, dated April 4, 2002, or CF6-80A1/A3 SB 78A4030, Revision 1, dated August 23, 2002, or

(2) Replace the DPV assembly with a serviceable assembly, or

(3) Deactivate the thrust reverser. The DPV must be replaced with a serviceable assembly within 10 days after deactivation. Information on deactivating the thrust reverser can be found in the applicable Aircraft Maintenance Manual (AMM).

(b) After each purge or replacement done in accordance with paragraph (a)(1), (a)(2), or (a)(3) of this AD, perform an operational check of the fan reverser in accordance with Paragraph 3.E. of the Accomplishment Instructions of ASBs CF6-80A1/A3 SB 78A4030, dated April 4, 2002, or CF6-80A1/A3 SB 78A4030, Revision 1, dated August 23, 2002.

(c) Thereafter, for GE CF6-80A1/A3 series engines, at intervals not to exceed 1,400 hours TIS since the last pressure switch purge or replacement of the DPV assembly, perform one of the following:

(1) Perform the DPV pressure switch moisture purge, in accordance with Paragraph 3.C. of the Accomplishment Instructions of Middle River Aircraft Systems ASBs CF6-80A1/A3 SB 78A4030, dated April 4, 2002, or CF6-80A1/A3 SB 78A4030, Revision 1, dated August 23, 2002, or

(2) Replace the DPV assembly with a serviceable assembly, or

(3) Deactivate the thrust reverser. The DPV must be replaced with a serviceable assembly within 10 days after deactivation. Information on deactivating the thrust reverser can be found in the applicable AMM.

(d) After each purge or replacement done in accordance with paragraph (c)(1), (c)(2), or (c)(3) of this AD, perform an operational check of the fan reverser in accordance with Paragraph 3.E. of the Accomplishment Instructions of ASBs CF6-80A1/A3 SB 78A4030, dated April 4, 2002, or CF6-80A1/A3 SB 78A4030, Revision 1, dated August 23, 2002.

GE CF6-80C2A Series Engines

(e) For GE CF6-80C2A1/A2/A3/A5/A8 series engines, perform one of the following no later than 1,400 flight hours TSN or 600 flight hours TIS after the effective date of this AD, whichever occurs later:

(1) Perform the DPV pressure switch moisture purge, in accordance with Paragraph 3.C. of the Accomplishment Instructions of Middle River Aircraft Systems ASBs CF6-80C2A PMC SB 78A1118, dated April 4, 2002, or CF6-80C2A PMC SB 78A1118, Revision 1, dated August 23, 2002, or

(2) Replace the DPV assembly with a serviceable assembly, or

(3) Deactivate the thrust reverser. The DPV must be replaced with a serviceable assembly within 10 days after deactivation. Information on deactivating the thrust reverser can be found in the applicable AMM.

(f) After each purge or replacement done in accordance with paragraphs (e)(1), (e)(2), or (e)(3) of this AD, perform an operational check of the fan reverser, in accordance with Paragraph 3.E. of the Accomplishment Instructions ASBs CF6-80C2A PMC SB 78A1118, dated April 4, 2002, or CF6-80C2A PMC SB 78A1118, Revision 1, dated August 23, 2002.

(g) Thereafter, for GE CF6-80C2A1/A2/A3/A5/A8 series engines, perform one of the following at intervals not to exceed 1,400 hours TIS since the last pressure switch purge or replacement of the DPV assembly:

(1) Perform the DPV pressure switch moisture purge, in accordance with Paragraph 3.C. of the Accomplishment Instructions of Middle River Aircraft Systems ASBs CF6-80C2A PMC SB 78A1118, dated April 4, 2002, or CF6-80C2A PMC SB 78A1118, Revision 1, dated August 23, 2002, or

(2) Replace the DPV assembly with a serviceable assembly, or

(3) Deactivate the thrust reverser. The DPV must be replaced with a serviceable assembly within 10 days after deactivation. Information on deactivating the thrust reverser can be found in the applicable AMM.

(h) After each purge or replacement done in accordance with paragraphs (g)(1), (g)(2), or (g)(3) of this AD, perform an operational check of the fan reverser, in accordance with Paragraph 3.E. of the Accomplishment Instructions of ASBs CF6-80C2A PMC SB 78A1118, dated April 4, 2002, or CF6-80C2A PMC SB 78A1118, Revision 1, dated August 23, 2002.

Serviceable DPV Assembly

- (i) For the purpose of this AD, a serviceable DPV assembly is an assembly that has:
 - (1) Accumulated zero time since new, or
 - (2) Passed the tests in the Middle River Aircraft Systems Component Maintenance Manual GEK 85007 (78-31-51), Revision No. 7 or later, Directional Pilot Solenoid Valve, Page Block 101, Testing and Troubleshooting, and that has zero flight hours TIS since passing the tests, or
 - (3) Been successfully purged according to paragraphs (a)(1), (c) (1), (e)(1) or (g)(1) of this AD immediately before installation on the fan reverser.

Deactivation Requirements

(j) If one or both thrust reversers are deactivated, then prior to further flight, revise the Limitations Section of the FAA-approved AFM to include the following:

"The takeoff performance on wet and contaminated runways with a thrust reverser(s) deactivated shall be determined in accordance with Airbus Flight Operations Telex (FOT) 999.0066/99, dated June 9, 1999, as follows:

For takeoff on wet runways, use performance data in accordance with paragraph 4.1.1 of the FOT.

For takeoff on contaminated runways, use performance data in accordance with paragraph 4.1.2 of the FOT."

(1) Notwithstanding the provisions of the FAA approved A300-600 and A310 Master Minimum Equipment List (MMEL), dispatch with both thrust reversers deactivated, for the purposes of complying with this AD, is approved.

(2) Notwithstanding the provisions of the FAA Approved A300-600 and A310 MMEL, airplanes which have deactivated one or both thrust reversers in compliance with this AD, may not conduct operation on contaminated runways, as defined in Airbus Flight Crew Operating Manual Section 2.18.50, unless all components of the Main Wheel Brakes, Green and Yellow Brake Systems, Antiskid System, Ground Spoiler System, and all Spoiler and Speed Brake Surfaces, operate normally.

Note 2: The "FCOM" referenced in Airbus FOT 999.0066/99, dated June 9, 1999, is Airbus Industrie Flight Crew Operating Manual (FCOM), Revision 27 for Airbus Model A310 series airplanes and Revision 22 for A300-600 series airplanes. [The revision number is indicated on the List of Effective Pages (LEP) of the FCOM.]

Alternative Methods of Compliance

(k) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office (ECO). Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

Note 3: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the ECO.

Special Flight Permits

(l) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be done.

Documents That Have Been Incorporated By Reference

(m) The actions must be done in accordance with the following Middle River Aircraft Systems Alert Service Bulletins:

Document no.	Pages	Revision	Date
CF6-80C2A, PMC SB 78A1118	All	Original	April 4, 2002
Total Pages: 18.			
CF6-80C2A, PMC SB 78A1118	1	1	August 23, 2002
	2-4	Original	April 4, 2002
	5	1	August 23, 2002
	6-8	Original	April 4, 2002
	9-10	1	August 23, 2002
Total Pages: 18.	11-18	Original	April 4, 2002
CF6-80A1/A3, SB 78A4030	All	Original	April 4, 2002
Total Pages: 18.			
CF6-80A1/A3, SB 78A4030	1	1	August 23, 2002
	2-4	Original	April 4, 2002
	5	1	August 23, 2002
	6-8	Original	April 4, 2002
	9-10	1	August 23, 2002
Total Pages: 18.	11-18	Original	April 4, 2002

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Middle River Aircraft Systems, Mail Point 46, 103 Chesapeake Park Plaza, Baltimore, MD, 21220-4295, telephone: (410) 682-0094; fax: (410) 682-0100. Copies may be inspected at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(n) This amendment becomes effective on July 23, 2003.

Issued in Burlington, Massachusetts, on June 9, 2003.

Francis A. Favara,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 03-15223 Filed 6-17-03; 8:45 am]

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